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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,412	01/29/2004	Charlie Steinmetz	200209323	6968

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EXAMINER

MARTIN, LAURA E

ART UNIT PAPER NUMBER

2853

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

HA

Office Action Summary

Application No.

10/768,412

Applicant(s)

STEINMETZ ET AL.

Examiner

Laura E. Martin

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,7-12 and 15-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,7-12 and 15-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 7, 8, 12, 15, 16, 18-20, 30, 31, and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sabonis (US 6022101) in view of Scheffelin et al. (US 5675367).

As per claims 1, 12, and 38, Sabonis teaches a printing fluid container and method comprising an off-axis printing-fluid reservoir (figure 1, element 52) configured to hold a free volume of printing fluid and air mixed together therein (column 4, lines 1-22), the printing-fluid reservoir having a substantially planar unitary leading edge (figure 9, element 90); a printing-fluid interface on the leading edge and extending into the reservoir (figure 9, element 96) and configured to move printing fluid out of the printing-fluid reservoir (column 6, lines 1-15); and an air-interface on the leading edge and extending into the reservoir (figure 9, element 94) and configured to move air into the printing-fluid reservoir in response to the movement of the printing-fluid into and out of the reservoir.

As per claim 3, Sabonis teaches the printing-fluid container wherein the leading edge of the printing fluid reservoir is an upright surface (figures 16-18, element 90).

As per claims 7, 19, and 39, Sabonis teaches the printing-fluid interface is configured to laterally output the printing fluid (figure 2) from the reservoir.

As per claims 8, 16, and 20 Sabonis teaches the printing-fluid container wherein the air-interface is configured to laterally input the air (column 6, lines 1-15).

As per claim 15, Sabonis teaches the printing-fluid container wherein the leading edge has a substantially planar profile (figure 3, element 90).

As per claim 16, Sabonis teaches the printing-fluid container wherein the air-interface above the printing-fluid interface on the leading edge of the printing fluid reservoir (figure 10, elements 94 and 96).

As per claim 18, Sabonis teaches the printing-fluid container wherein a single structural piece forms the leading edge (figure 3, element 90).

As per claim 30, Sabonis teaches the printing-fluid container wherein the air-interface is configured to receive a fluid connector that is in fluid communication with a venting assembly upon installation of the printing-fluid container into a printing system (column 4, lines 23-34; figure 9, element 97- there are two different air assemblies on the interface).

As per claim 31, Sabonis teaches the air-interface to vent air to the venting assembly via the fluid connector during the second mode of operation (column 6, lines 1-15).

As per claims 1, 7, 8, 12, 19, 20, 38 Sabonis does not teach the printing-fluid container wherein the liquid-interface moves fluid into the printing-fluid reservoir and the air-interface moves air out of the printing fluid reservoir.

As per claim 3, Sabonis does not teach an upright surface configured for lateral insertion into a printing system.

As per claims 1, 7, 8, 12, 19, 20, 38 Scheffelin et al. teaches the printing-fluid container wherein the liquid-interface moves fluid into the printing-fluid reservoir and the air-interface moves air out of the printing fluid reservoir (column 10, lines 30-37).

As per claim 3, Scheffelin et al. teaches an upright surface configured for lateral insertion into a printing system (figure 2, element 50 laterally inserted into printing system 18).

As per claim 40, Scheffelin et al. teaches allowing printing fluid to return to the reservoir including laterally returning fluid to the reservoir (column 10, lines 30-37)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing-fluid container of Sabonis with the disclosure of Scheffelin et al. in order to create a high quality ink container that allows for pressure regulation.

Claims 9-11, 26, 29, 32- 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sabonis (US 6022101) and Scheffelin et al. (US 5675367), and further in view of Barinaga (US 5721576).

As per claims 9, 10, 26, and 29, Sabonis and Scheffelin et al. teach the printing-fluid container with an air-interface and a printing-fluid interface of claims 1 and 12; however, neither teach a ball and septum assembly.

Barinaga teaches a ball and septum assembly (figure 8, element 102 – ball and element 104 – septum).

As per claims 11 and 32, Sabonis and Scheffelin et al. teach the printing-fluid container of claim 1; however, neither teaches the printing-fluid interface and the air-interface each respectively configured to conditionally block input and output of printing fluid and air unless engaged by a fluid connector.

Barinaga teaches the printing-fluid interface and the air-interface each respectively configured to conditionally block input and output of printing fluid and air unless engaged by a fluid connector (column 6, lines 4-17).

As per claims 33 and 34, Sabonis teaches a printing fluid container comprising an off-axis printing-fluid reservoir (figure 1, element 52) configured to hold a free volume of printing fluid and air mixed together therein (column 4, lines 1-22), the printing-fluid reservoir having a substantially planar unitary leading edge (figure 9, element 90); a printing-fluid interface on the leading edge and extending into the reservoir (figure 9, element 96) and configured to move printing fluid out of the printing-fluid reservoir (column 6, lines 1-15); and an air-interface on the leading edge and extending into the reservoir (figure 9, element 94) and configured to move air into the printing-fluid reservoir in response to the movement of the printing-fluid into and out of the reservoir. Sabonis also teaches a single structural piece forming an upright leading edge of the printing-fluid reservoir (figure 9, element 10).

Scheffelin et al. teaches the printing-fluid container and method wherein the liquid-interface moves fluid into the printing-fluid reservoir and the air-interface moves air out of the printing fluid reservoir (column 10, lines 30-37).

Neither Sabonis nor Scheffelin et al. teach a ball and septum printing-fluid interface.

Barinaga teaches a ball (figure 8, element 102) and septum (figure 8, element 104) printing-fluid interface.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing-fluid container of Sabonis as modified with the ball and septum assembly of Barinaga in order to prevent ink leaks from the printing-fluid container.

Claims 17, 21-25, 27, 28, and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sabonis (US 6022101) and Scheffelin et al. (US 5675367), and further in view of Childers (US 6116723).

As per claim 17, Sabonis and Scheffelin et al. teach the printing-fluid container of claim 16, as well as an air-interface and printing-fluid interface; however, neither teaches the air-interface being vertically aligned above the printing fluid interface on the leading edge of the printing-fluid reservoir.

Childers teaches the air-interface (figure 1, element 26) being vertically aligned above the printing fluid interface (figure 1, element 36) on the leading edge of the printing-fluid reservoir.

As per claims 21-28, Sabonis and Scheffelin et al. teach the printing-fluid container of claim 12; however neither teaches the air-interface is configured to regulate pressure within the printing-fluid reservoir to an operating pressure substantially equivalent to an ambient atmosphere pressure; wherein the air-interface is configured to regulate pressure within the printing fluid reservoir to an operating pressure below an ambient atmosphere pressure; where the air-interface is configured to regulate pressure within the printing-fluid reservoir to an operating pressure above an ambient atmosphere pressure; wherein the air-interface actively regulates pressure within the printing-fluid reservoir; wherein the air-interface passively regulates pressure within the printing-fluid reservoir; wherein the printing-fluid interface is configured to receive a fluid connector that is in communication with a printing-fluid ejector upon installation of the printing-fluid container into a printing system; wherein the printing-fluid interface is configured to deliver printing fluid to the printing-fluid ejector via the fluid connector during the first mode of operation.

Childers teaches the air-interface is configured to regulate pressure within the printing-fluid reservoir to an operating pressure substantially equivalent to an ambient atmosphere pressure (column 2, lines 33-43); wherein the air-interface is configured to regulate pressure within the printing fluid reservoir to an operating pressure below an ambient atmosphere pressure (column 4, lines 40-57); where the air-interface is configured to regulate pressure within the printing-fluid reservoir to an operating pressure above an ambient atmosphere pressure (column 4, lines 40-57); wherein the air-interface actively regulates pressure within the printing-fluid reservoir (column 2,

lines 33-43); wherein the air-interface passively regulates pressure within the printing-fluid reservoir (column 4, lines 40-57); wherein the printing-fluid interface is configured to receive a fluid connector that is in communication with a printing-fluid ejector upon installation of the printing-fluid container into a printing system (figure 1, elements 36 and 14); wherein the printing-fluid interface is configured to deliver printing fluid to the printing-fluid ejector via the fluid connector during the first mode of operation (figure 1, element 18).

As per claims 35-37, Sabonis teaches a printing-fluid container comprising: reservoir means for holding a free volume of printing fluid and air mixed together (column 4, lines 1-22); means for laterally outputting printing fluid from the reservoir means during a first mode of operation

Scheffelin et al. teaches inputting printing fluid into the reservoir during a second mode of operation (column 10, lines 30-37).

Neither teaches means for regulating pressure within the reservoir means by laterally inputting air into the reservoir means during the first mode of operation and by laterally outputting the air from the reservoir means during the second mode of operation; wherein means for laterally outputting printing fluid is vertically aligned below means for regulating pressure; and wherein the means for laterally outputting printing fluid and the means for regulating pressure are arranged on a single structural piece.

Childers teaches means for regulating pressure within the reservoir means by laterally inputting air into the reservoir means during the first mode of operation and by laterally outputting the air from the reservoir means during the second mode of

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operation (column 4, lines 40-57); wherein means for laterally outputting printing fluid is vertically aligned below means for regulating pressure (figure 1, elements 26 and 36); and wherein the means for laterally outputting printing fluid and the means for regulating pressure are arranged on a single structural piece (figure 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing-fluid container of Sabonis as modified with the disclosure of Childers in order to create a more durable ink cartridge.

Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sabonis (US 6022101) and Scheffelin et al. (US 5675367), and further in view of Needham (US 4658268).

Sabonis and Scheffelin et al. teach the method of claim 28; however, neither teaches allowing printing fluid to return to the reservoir includes returning printing fluid and at least one of air and froth.

Needham teaches allowing printing fluid to return to the reservoir includes returning printing fluid and at least one of air and froth (column 2, lines 55-57).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Sabonis as modified in with disclosure of Needham in order to improve printing quality.

Response to Arguments

Applicant's arguments with respect to claims 1, 3, 7-12, and 15-41 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Laura E. Martin


MANISH S. SHAH
PRIMARY EXAMINER

4/14/06